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APPARATUS FOR METHOD FOR EXPRESSING FLUID MATERIALS

Related Applications

- 5 This application claims the benefit under Title 35, U.S.C. § 119(e) of pending U.S. Provisional Application Serial No. 60/047,213, filed May 20, 1997, entitled "Cell Processing System", incorporated herein by reference. This application is also related to co-pending U.S. Patent Applications entitled: "Rotating Seals for Cell Processing Systems" (U.S. Appln. No. 09/081,733 filed May 20, 1998); "Fluid Management Systems" (U.S. Appln. No. 09/082,200 filed May 20, 1998); "Optical Sensors for Cell Processing System" (U.S. Patent No. 6,175,420); and "Cell Processing Systems" (U.S. Appln. No. 09/082,341 filed May 20, 1998), the disclosures of all of which are incorporated by reference.

Background

- 15 In order to prepare cells for transfusion or transplantation, it may be necessary to process the cells using an operation, which removes unwanted chemical and/or cellular elements. For example, in preparing frozen erythrocytes for transfusion, erythrocytes are separated from cryopreservatives and other blood components, such as white blood cells, platelets, and subcellular debris. It is important that cell processing be performed under conditions which minimize the risk of microbial contamination.

- 20 Further where cell (such as eukaryotic cells, bacteria, or yeast) are cultured in bioreactors for the synthesis of pharmaceuticals, it is necessary to separate the cells from their culture medium.

- A number of devices and techniques have been developed to process cells for the foregoing purposes, as described, for example, in European Patent No. 00575858/EP B1 by 25 Witthaus et al. And US Patent No. 4,919,817 by Schoendorfer and Williamson, and other patents as set forth below.